The Health Sciences and Human Services Library: "this is one sweet library"

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The opening of the Health Sciences and Human Services Library at the University of Maryland, Baltimore, in April, 1998, was a highly anticipated event. With its unique architecture and stunning interior features, it is a signature building for the university in downtown Baltimore. The building is equipped with state-of-the-art technology, but has a warm, inviting atmosphere making it a focal point for the campus community. Its highly functional, flexible design will serve the staff and users well into the twenty-first century.

BACKGROUND

The corner of Greene and West Lombard streets today has a definite urban éclat.

The new Health Sciences and Human Services Library (HS/HSL), University of Maryland, was described as "this is one sweet library" [1] by one reviewer. The same reviewer noted that the library's location at the intersection of Greene and Lombard Streets, one of the busiest and most visible sites in the city of Baltimore, "has a definite urban éclat" [2]. The HS/HSL also sits diagonally across the street from Davidge Hall, the oldest building and symbolic center of the campus.

The University of Maryland, Baltimore (UM,B), is an urban professional school campus, one of the twelve campuses in the University System of Maryland. It is comprised of the Schools of Medicine, Dentistry, Nursing, Pharmacy, Social Work, Graduate School, and Law as well as two autonomous hospitals, the University of Maryland Medical System and the Veterans Administration Hospital. The HS/HSL serves all these entities as well as affiliates, the State of Maryland, and the Southeastern Atlantic Region as one of the eight Regional Medical Libraries in the National Network of Libraries of Medicine.

Planning for a new library began more than twenty years ago, as a result of the recommendations made by the Commission of Higher Education of the Middle States Association in 1976 for a more modern and expanded library facility. The 1960 building was inadequate for the collection, users, staff, and new information technologies. The poured concrete construction made wiring a difficult process and hindered the ability to network the building. Over the next fifteen years or so, various proposals were made for renovation, expansion, or location in other new facilities planned for the campus. However, all of these plans were rejected. Review of the UM,B Facilities Master Plan in 1991 by the State's Department of Budget and Fiscal Planning finally resulted in a recommendation for construction of an entirely new building, which would house campus computing departments as well as the library [3]. The 1991 Facilities Master Plan complemented the strategic mission of the campus. This mission focused on an interdisciplinary approach to teaching, research, and community service; emphasis on excellence in education and research; technology transfer; and creation of an environment to include facilities, information systems, and policies to foster these directions [4].

The firm of Perry, Dean, Rogers and Partners of Boston in partnership with the Design Collective, Inc., of Baltimore was selected in a competitive process as the architects by the university and the state. As described by the authors in a previous article, the planning process involved a wide range of people from both on and off campus and was extremely interactive [5]. Changes in the organizational structure on campus led to rethinking of the original program plan, which focused on bringing the library and computing groups together under one roof rather than integrating services. The revised program plan placed computing and

library departments throughout the building and brought them together administratively under the vice president for information services. Even though this administrative structure has been changed again, all the computing departments do occupy the building including administrative computing, which reports to the vice president for administrative services. The HS/HSL reports to the vice president for academic affairs. The HS/HSL incorporates academic computing functions into its computing and technology services division; data communications and telecommunications departments also are tenants in the building although these departments do not report to the library director, but are part of academic affairs.

VISION OF THE LIBRARY

A place that incorporates change while holding on to everything that made it so beloved, a place where a widely diverse group of inhabitants are thrown together within something vast and monumental and left to achieve their private goals, communally [6].

Articulating the vision for the new library is a difficult task. There are many stakeholders in a campus library, including campus administration, faculty, staff, students, as well as city and state officials, the library staff who will live, work, and provide services in the building and the architects who must design a building with which they and all the others are pleased.

The above quotation expressed what the library wanted to convey to the architects about the vision of a new library. Early on the question "do we really need a library if everything is digital?" needed to be addressed. The conclusion of everyone concerned was "yes" because: (1) it will be well into the next century before replacement of print will occur; (2) the library was completely out of space *now*; and (3) the campus sorely needed a space to foster and realize its strategic vision.

The library is considered to be the nerve center of the campus and thus plays many roles. The new HS/HSL was envisioned to be modeled on the concept of the ancient library in Alexandria [7] in that it should be not only a place to store information but also a place for contemplation, study, and scholarly discourse. A high-tech building was needed that could meet the needs of the twenty-first century by housing print and electronic collections, providing networked access to resources worldwide, and providing a cozy place for those who worked in or needed to come to the library. In summary, the building needed to be:

- a signature building that would be a beacon for the University of Maryland in downtown Baltimore;
- a physical symbol of the University of Maryland's search for knowledge;
- a focal point for the campus and an intellectual commons serving a heterogeneous population;
- a haven for study and research;
- a place for groups engaged in collaborative work or learning together;
- an access point and distribution center for print and electronic information;
- a teaching library to support trends in education, research, and service;
- a functional and pleasant workplace for library and computing staff; and last, but not least,
- an attractive and compelling gateway to the campus [8].

The new HS/HSL opened April 3, 1998. The formal dedication took place September 17, 1998. Construction information and a listing of facilities and services by floor are contained in Appendixes A, B, and C.

LOCATION, LOCATION, LOCATION

The new library anchors what is now a very interesting corner [9].

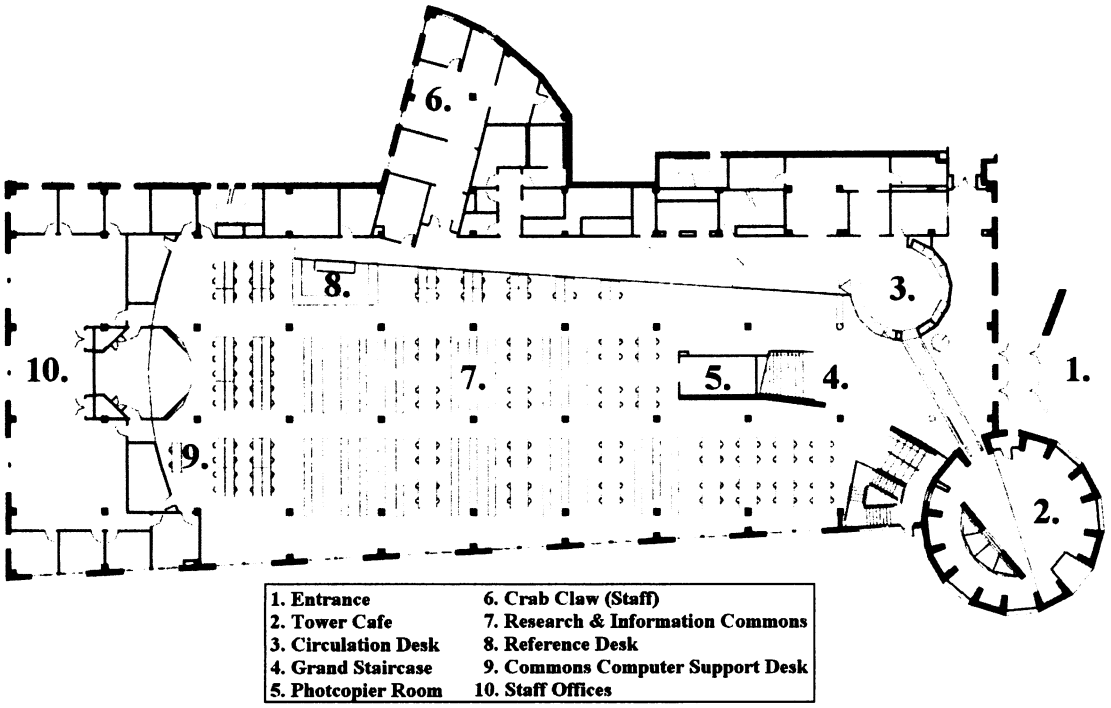
Real estate brokers always say that "location, location, location" determines the value of a property. In the case of the new HS/HSL, the location had a major impact on the building design as well. The location selected for the new library was one of the most visible at the University of Maryland as it faced the contemporary-style four-year-old Gudlesky Tower of the University of Maryland Hospital and the university's Davidge Hall built in 1807 and the oldest building in continuous use for medical education in the United States.

Although fortunate to obtain high impact space and one of the last remaining green spaces on campus, there were several site constraints that made the location a challenge and dictated the basic design of the building. First, the site was a long, narrow rectangle the length of a city block. The length of the building was directly responsible for its most stunning feature, the 104-step central staircase (see the cover of this issue). The staircase in turn dictated the layout of the stacks and location of study rooms and offices. The length of the building also drove the arrangement of the circulation, reference, and computer support desk on the first floor. An attempt was made to "square off" the building by placing offices at the ends of the building on each floor (Figure 1).

Second, the medical evacuation flight path to the university's trauma center restricted the height of the building to five floors above ground.* The height restriction necessitated creation of the infamous "crab claw" (originally called the "lobster claw" by the Boston architects) so that the building would have the required and allotted square feet. The crab claw, jutting out on the west side of the building, allowed the li-

* An interesting tidbit about this—the helicopter approach lines up with home plate at Oriole Park at Camden Yards and proceeds over the HS/HSL to land on the roof of the center.

Figure 1
Plan of main floor



Note placement of service desks, café, photocopy room, "crab claw," and grand staircase.

brary to cluster the resources management departments (cataloging, acquisition, serials) in an arrangement of vertical adjacency to each other and the loading dock and mailroom. The crab claw also became the central services core for the freight elevator, restrooms, water fountains, and cleaning staff closets. The staff lounge occupied the third floor. The concept of vertical rather than horizontal adjacencies has produced some interesting changes in workflow and staff communication.

Third, the neighborhood and its architecture had an impact on the exterior design and roof. The unique, beautiful gull-wing roof design was in response to a request by the owners of Oriole Park to cover up unsightly mechanical equipment that would be visible from the ballpark. The building materials reference the predominately brick and limestone structures in the neighborhood and throughout Baltimore. A lovely, subtle feature is the slight cant of the east wall of the library, which draws the eye south to north from Oriole Park at Camden Yards to the gateway of the University of Maryland campus—the Health Sciences and Human Services Library.

As noted earlier, the location is at one of the busiest corners in downtown Baltimore. "Everything is focused on the corner tower with its animated landscape plaza" [10]. The architects took advantage of the location to focus attention on the five-story limestone and glass tower of the HS/HSL, which is surrounded by a black granite plaza that wraps in a nautilus form to provide an urban, European style gathering space (Figure 2). Engraved with inspirational phrases from Euripides, Tennyson, and others, the limestone pillars, with their attached seating, have already become a popular spot for lunch, conversation, contemplation, or even Frisbee playing.

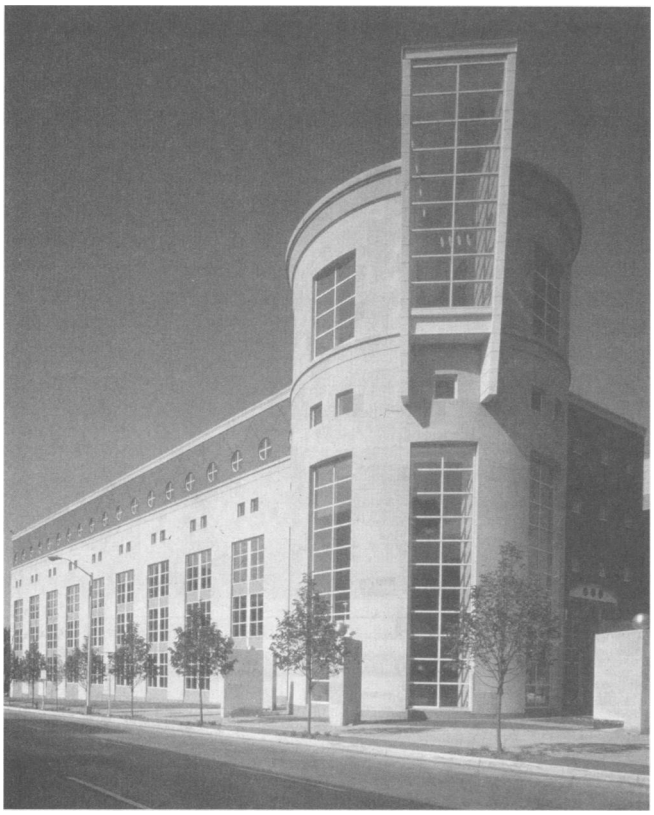
The overall design of the building is influenced in large measure by the site and the location. In spite of the site constraints, the result is an exciting signature building that serves as a beacon for the University of Maryland, Baltimore.

INTERIOR SPACES

Inside, this is one sweet library [11].

One of the many challenges faced in designing the building was adhering to Maryland state space guidelines for academic libraries based on staff and their functions; projected collection growth, taking into account digital information growth; and user space. Space for staff was determined by a formula based on

Figure 2
View of Health Sciences and Human Services Library showing the tower, the east side of building along Greene Street, the plaza, and the granite pillars



Photography by Anne Gummerson, 1998. Used with permission of the University of Maryland, Baltimore.

title and function. Unfortunately, the current guidelines did not take into account the technology space required for today's knowledge worker. To counter this situation, open office landscaping for department workspace was used and meeting and storage space was programmed into staff areas. The Americans with Disabilities Act (ADA) requirements provided additional square footage for aisle and passage width in stack, work, and office areas. The resulting workspaces are spacious and allow room for workstations and equipment and local storage for supplies. Another attractive staff space is the staff lounge, which can seat sixty people and has several refrigerators and microwave ovens. General storage for computers and other equipment, paper, supplies, and exhibits used by the Regional Medical Library is located in the lower level. The mailroom and loading dock in the lower level of the crab claw, including the freight elevator, round out spaces for the functional uses of staff.

Stack space was allotted based on a slower growth rate for print materials and expanded electronic collections. The formula used combined the state guidelines, which are based on collection space allotment for graduate science education, and the planner's best guess. Stack heights and aisle widths conform to ADA guidelines as well. Growth space for fifteen years at the current rate has been programmed, which provides twenty-two miles of shelving, including approximately three miles of non-public compact shelving in the lower level. To prepare for the possibility of an expanded digital environment, miles of conduit have been located beneath existing shelving so that an entire floor can be retooled if necessary.

Programmed user space was based on state guidelines, which take into account the level and number of students and the commuting campus status of the university. Additionally, the building program included a large number of public workstations for which allotted space was greater than for general library study seating. This allotment was to anticipate the need for more workstations to access remote, digital information. There are 900 total seats including study table seats, Research and Information Commons workstations, three microcomputer classrooms, study carrels, group study rooms, and lounge seating. The old library had only 140 seats! Other public spaces included conference rooms seating 14 and 16 people and 40 small group study rooms of various sizes. These spaces were planned in direct response to campus needs for spaces for meetings and places to study, collaborate, and research in groups. Shifts in the curricula to problem-based learning and interdisciplinary ventures on campus were already evident as the building was being planned and these special needs were accommodated.

Special features and spaces

This is better than the aquarium.

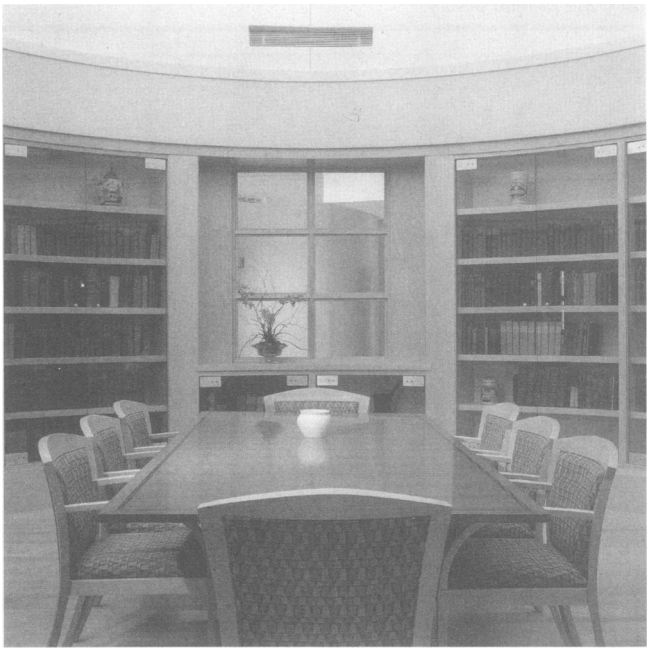
Without a doubt, one of the most popular spots in the HS/HSL is the Tower Café on the main floor just inside the front doors, but outside the security checkpoint of the library (Figure 3). Library users can grab a cappuccino and refill their "approved" spill-proof library mugs, which are sold at cost at the circulation desk. Food, however, is not allowed. As one anonymous reviewer quipped "this is better than the aquarium."

An architecturally stunning historical reading room and board room for special events on the fifth floor of the tower complete the public user spaces. The board room has a two-story window that looks directly out onto Davidge Hall, maple and cherry wood cabinets and millwork, and specially designed tables and chairs. It can seat 18 at a conference table, 45 for a presentation, and 125 for a reception. A small serving kitchen is adjacent to it.

Figure 3
Tower Café with "Jetsonian" table and chairs

Photography by Anne Gummerson, 1998. Used with permission of the University of Maryland, Baltimore.

Figure 4
Historical reading room



Photography by Anne Gummerson, 1998. Used with permission of the University of Maryland, Baltimore.

The historical reading room is a beautifully appointed round room with wood and glass cabinets with indirect natural lighting from above (Figure 4). Next to it is the temperature and humidity controlled stack area.

The library is connected to the student union by an entry way into the library lobby offering great convenience to students. The design of the building permits only one entry and exit point as the library lobby is the common area with connections to the Tower Café and student union.

TECHNOLOGY

The library thus is wired to the nth degree [12].

Technology supporting the building is state-of-the art with 1,500 data connections to provide direct access to the Internet without the aid of hubs and routers. Every study table, room, and carrel has data and power connections. The Research and Information Commons on the first floor provides thirty-seven workstations for accessing everything from the Web to databases to application software.

Three microcomputer classrooms on the lower level with 14, 18, and 25 seats plus teaching stations are wired directly to the Internet; a video LAN broadcasts from the teaching workstation to each student allowing control by the instructor and eliminating the need for projection systems. These three rooms plus the MCI Distance Learning Room and the Bell Atlantic Center for Innovations in Technology were placed on the lower level below ground away from light and windows to avoid glare problems.

The technology for the forty-five-seat distance learning room is not in place at the time of this writing. Discussions are going on so that the equipment will be the most current for the needs of the campus. There will likely be the compressed video system already in use across the university system and a satellite up- and downlink.

The Center for Innovation in Technology was conceived as a place for campus, industry, or government to showcase new and emerging information technologies. It can be used as a demonstration center or exhibit area for special events or for longer periods of time.

The computer room on the lower level is shared by all the occupants of the building: the library, administrative computing, and data communications. The space itself is segmented and contains staff space for administrative computing and data communications. A service window allows users to come and pick up printouts when necessary from administrative computing.

Figure 5
The bridge over the lobby from the second floor of the tower to a round lounge area above the circulation desk

Photography by Anne Gummerson, 1998. Used with permission of the University of Maryland, Baltimore.

Figure 6
Tower study room with carrels and lounge furniture

Photography by Anne Gummerson, 1998. Used with permission of the University of Maryland, Baltimore.

INTERIOR DESIGN

northern grey . . . and suddenly . . . brilliant Mexico [13].

There are over a dozen colors ranging from brick red and gold to purple rain and pale parchment used to decorate the building prompting the remark that "you come in from chilly northern grey and suddenly you're in brilliant Mexico." Given the size of the building and the emphasis on technology, it could easily have a cold, clinical feeling; the use of color and light enlivens the inside to make it inviting, uplifting, and cozy. The colors are scattered throughout the building in alcoves, in study rooms, on classroom walls, and around windows. In the entry to the building there are two stunning curved walls of Venetian plaster in rich gold and deep brick red (see the cover of this issue). The use of maple and cherry abounds in wall accents as well as in tables and chairs throughout the building, giving it a warm glow. Unique fabric patterns and colors on seating add to the diversity of the design; and the red metal chairs and glass tables in the Tower Café have a definite retro feel.

Both natural and artificial light are incorporated to great effect throughout the building. East and south facing window walls allow light to stream into study rooms and office areas. Lamps on tables in carrels and hung from the ceiling along the curved Venetian walls add interest. Huge torchieres on the stairway landings draw the eye to the top providing a glimpse of a large window with light coming in from the south onto a lounge area. The building is playful and some times referred to as "Jetsonian" with hardly a straight line anywhere; curves and angles abound; bridges, peepholes, and the odd staircase elicit chuckles (Figures 5 and 6). A red stained glass window at the top of the stairs casts a red spot and acts as a sundial on sunny days.

The interior design of the library achieved the goals set out in the planning process with ample comfortable seating for individuals and groups; state-of-the-art technological infrastructure; structure that supports the library's teaching role; staff spaces that are pleasant to work in; and, most of all, the achievement of a beautiful place that incorporates the ideals of a learning environment.

IMPACT AND REACTIONS

Everything in the new building is so much better than in the old facility [14].

The building is quite distinctive and has been reviewed favorably in both the *Baltimore Sun* and the *Washington Post* newspapers. It has already won a

number of awards for specific features such as the continuous pour concrete gullwing roof, the Venetian plaster walls, and the special lighting throughout the building. Other awards are expected for competitions in which the building has been submitted.

Many visitors have come to tour the building from abroad and locally. The dedication was attended by several hundred people in addition to campus, local, city, and state officials. The HS/HSL has quickly become a focal point for campus community activities. The board room has been utilized quite often by the president and deans for important events like the Board of Regents' meetings. A photographic display has been mounted by the University Art Associates who plan to do other displays.

Staff enjoy the new building enormously, especially the windows and sunlight after having been in the basement for years in the old library. The furniture is comfortable and staff have roomy workspaces. The size of the building, however, does mean staff have to walk further to do their work, especially shelving, or to see others. Telephone and e-mail use has increased a great deal. New workflows have been designed to accommodate the needs of cataloging, acquisition, and serials now located on separate floors. The head of resource management practices more management by walking around.

The circulation and reference desks have been affected by their distance from one another as well as by the increase in the number of users. Circulation is now the initial point of street contact and staff must be able to refer users to the appropriate place and to field many more types of questions. Questions at circulation increased 114% in July to October 1998, compared to the same period in 1997. Issues of training and staffing levels must be addressed to handle this workload.

The Research and Information Commons is serviced by both the reference desk and the computing desk. Coordination and collaboration between the two departments is being fine-tuned so that users will not be shunted from one desk to the other unnecessarily. Again, staff training becomes very important.

A number of "change workshops" prepared staff for the move and the changes that would inevitably occur. These programs highlighted coping with changes even though the changes were for the better. Still, people were surprised by the kinds of things they missed from the old environment. Some staff members feel isolated from their colleagues and would prefer shorter landscape partition walls; others miss the lunchtime camaraderie that used to take place in the loading dock that doubled as a lunch room in the old building.

In hindsight, additional staff space should have been planned, especially in circulation and computing, to handle the increased workload that has occurred in the new building. Overall, though, staff are pleased and proud of the building and certainly would not want to go back to the old building.

Response from the user community has been enormous. Data showed a 139% increase in attendance with an increase in services between 28% and 38% over the previous year from July to October. From the minute the doors were opened on April 3, computers have been in constant use, study rooms have nearly always been full, and use of both electronic and print materials has soared. Users also have brought higher expectations for more resources and longer hours, issues that are currently being addressed. Policies for the use of study rooms and the microcomputer classroom had to be written as these facilities quickly were overwhelmed. The use of the board room has been handled by the president's office and has been restricted to functions sponsored by the president, vice presidents, or deans.

Overall, the building is architecturally stunning and it works! While staff might wish for minor changes, the consensus is that the design is functional, is visually beautiful, and fulfills the role of a compelling gateway to the campus of the University of Maryland. Says University President David J. Ramsay, "The library is one of the first places you look in order to measure the quality of an institution of higher education. Those who see our new library, from the outside and the inside, will have no doubt, as to the seriousness of our academic mission. This wonderful building puts us in a leadership position on an international scale" [15].

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APPENDIX A

Credits

Architects:	Perry, Dean, Rogers and Partners (Boston, Masschusetts) Steven Foote
	Design Collective, Inc. (Baltimore, Maryland) James Carroll Suresh Kodolikar Edward Kohls
Construction:	Clark Construction Group, Inc. (Bethesda, Maryland) James Kinkead Randolph Sibold
University of Maryland Facilities Management	Calvin Corell Lamonte John Judith Salter-Brown

APPENDIX B

Statistical Data

Total project cost:	$32,000,000
Construction cost:	$24,000,000
Capital equipment:	$ 5,000,000
Size:	180,000 gross 118,000 net
Floors:	6 floors (lower lever plus five above ground)
Occupants:	Health Sciences and Human Services Library National Network of Libraries of Medicine/Southeastern Atlantic Region Data/Telecommunications Administrative computing
Shelving:	22 miles including 3 miles of compact shelving in lower level
Total volumes:	360,000
Total volume capacity:	500,000
Patron seating:	900 seats
Network connections:	1,500 data connections
Special features:	Tower Café 35 public workstations 40 collaborative study rooms 2 conference rooms 3 microcomputer classrooms MCI Distance Education Center Bell Atlantic Center for Innovations in Technology Board room Historical suite

APPENDIX C

List of facilities by floor

Lower level

Microcomputer classrooms
Bell Atlantic Center for Innovations in Technology
MCI Distance Education Center
Computer room and data processing service center
Mailroom/loading dock
Storage room
Compact shelving

First floor

Main entrance/connection to Student Union
Tower Café
Circulation/Reserve desk
Electronic reserve
Research and Information Commons
- Reference collection
- Indexes and abstracts
- Public workstations
- Printers

Reference desk
Commons computing assistance desk
Copy room
Conference room

Second floor

Current journals
Bound journals (A-Cytogenet)
Study rooms
Copy room

Third floor

Bound journals (Cytologia-Z)
Interlibrary loan drop-off
Study rooms
Copy room

Fourth floor

Books (A-RC565)
Study room
Copy room

Fifth floor

Board room
Conference room
Historical suite
Books (RC566-Z)
Oversized books
Dissertations/Theses
Study rooms
Copy room